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ABSTRACT

In the nursing literature, many variables have been used in research to identify students at risk, predict program success, and to indicate the best time to identify at-risk students and how to predict success on the Nursing Council Licensure Exam for Registered Nurses (NCLEX-RN). In general, American College Testing Program (ACT) scores predicted success better for associate degree students than for baccalaureate students. Grade point average in clinical nursing courses and the Mosby Assess Test appeared to be good predictors of success on NCLEX-RN for baccalaureate students. No formal research was found using the Nelson-Denny reading exam as a predictor of baccalaureate nursing success. Other than the verbal scores of the Scholastic Aptitude Tests and the ACT, none of the research used reading comprehension ability or nursing vocabulary as variables in either identifying at-risk students or predicting NCLEX-RN success. Most studies agreed that pre-admission criteria are useful for admission decisions and upholding admission standards but should not be used to prevent at-risk students from having a chance of being admitted. There is a consensus that at-risk students should be identified early and given assistance, but the exact type of assistance and who the provider should be have not been determined. Very little information was found regarding specific strategies to improve the success of at-risk nursing students other than test-taking strategies, relaxation techniques, and NCLEX-RN review. (KM)

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"WHAT RESEARCH SAYS ABOUT THE EFFECT OF ACADEMIC ENRICHMENT ON THE SUCCESS RATE OF BACCALAUREATE STUDENTS"

BY ARLEEN FEARING

HE 022 503

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Review of the Literature

Over the years nursing education programs have had high student attrition rates. Baccalaureate nursing programs in four year colleges have had higher student attrition rates than the associate degree and diploma programs. In the early 1970's the literature focused on the topic of decreasing student attrition rates in collegiate nursing programs. It was not until the late 1970's and early 1980's that academic achievement variables, identification of high risk students, admission policies, evaluation methods and prediction of success of nursing students appeared abundantly in the nursing literature. From the mid to late 1980's there have been numerous studies published using many variables to predict student success on the Nursing Council Licensure Exam for Registered Nurses (NCLEX-RN). However, there were few studies relating in particular to strategies, teaching methods or specific student support courses to specifically facilitate student success in nursing programs especially in reference to academically disadvantaged students. Many variables have been used in studies to predict student completion of the nursing program such as ACT scores, high school rank, high school grade point average, college grade point average and grade point average of the science courses. Similar variables including a variety of standardized examinations have been used to predict success on the NCLEX-RN.. No research studies were

found in the nursing literature using the Nelson-Denny reading exam, reading comprehensive or study skills examinations to predict student success on the NCLEX-RN.

Sisca and Kerr (1984) stated statistics of that time pertaining to pass rates on the state board examination and proposed that improving study habits, test-taking techniques and stress reduction would assist students to pass the state board nursing examination. The emphasis for this article was on assisting the foreign graduate to pass the board exam in the United States. Although the techniques mentioned may be helpful to anyone taking the board exam, no studies had been done and no statistics were given to demonstrate the effectiveness of these methods as success factors.

An article by Beeker (1985) described a method for assisting learning disabled students to complete a college nursing program and pass the NCLEX-RN. A battery of tests was used to diagnose the students' learning disability. Then using the students' learning style preference, individualized study strategies were adapted to meet the students' needs. No statistics or research designs were used in the article.

A research study completed by Oliver (1985) used an ex post facto design to see if there was a relationship between admission criteria and the success of associate degree nursing students. A significant relationship was found

between student achievement and previous science and/or English courses taken.

Yocom and Scherubel (1985) used a population of baccalaureate nursing students in their study and their results supported earlier studies in that state board exam success can be predicted by clinical nursing course grade point average. This conclusion was also supported by Glick, McClelland and Yang (1986) in which NCLEX-RN prediction correlated with baccalaureate students' grades received in the clinical nursing courses. This study reported that there was a high negative correlation with the ACT score and the ACT math score.

In contrast Felts (1986) studied associate degree nursing students and reported that the ACT score was a predictor of student success in the nursing courses. On the college level grade point average and microbiology grade were predictors of success and performance in college courses also predicted the status of NCLEX-RN results. Boyle (1986) reported that for minority baccalaureate students the ACT score best predicted state board exam performance.

Whitley and Chadwick (1986) looked at the integrated curriculum in a baccalaureate program and found that an integrated curriculum prepared the above average learner for

the NCLEX-RN but it was inadequate in preparing the average and below average students.

The studies of Quick, Krupa and Whitley (1985) and Yang, Glick, and McClelland (1987) supported the facts that students' GPA in nursing courses did predict baccalaureate student success on NCLEX-RN. In fact Quick, Krupa and Whitley (1985) stated that NCLEX-RN success can be predicted with the GPA at the end of the freshmen year. The verbal portion of the SAT and the anatomy and physiology grades were also found to be related to NCLEX-RN success. In this study the chemistry lab grade and biochemistry theory grade were inversely related to NCLEX-RN success. Yang, Glick and McClelland also substantiates that baccalaureate nursing success and NCLEX-RN success can be predicted by admission criteria data including high school rank, ACT scores and grade point average for chemistry, biology, sociology and pre-nursing grades. Both authors alluded to identifying the students at risk and correcting their problems prior to taking the NCLEX-RN but no suggestions were given as to how or by what methods faculty members would use to accomplish this task.

Brown (1987) did use an experimental group design and provided weekly discussion sessions for the experimental group of nursing students who were at risk juniors. The group sessions consisted of peer discussions and

interactions pertaining to the nursing courses and study skills. Relaxation techniques were also provided in the sessions. As a result NCLEX-RN mean scores for the group receiving the treatment were the same as the rest of the class. The control group mean scores on the NCLEX-RN were lower than the rest of the class.

The Watson-Glaser Critical Thinking Appraisal was used to predict baccalaureate student success in two different studies in 1987. Bauwens and Gerhard (1987) found that critical thinking assessment might predict NCLEX-RN success where Gross, Takazawa and Rose (1987) reported that NCLEX-RN scores were not predicted by critical thinking scores. Both studies however; did find that critical thinking scores were useful as admission criteria predictors.

Quick, Krupa and Whitley (1987) suggested that students can be identified as at risk at the end of the freshman year and suggested further research be done using the Mosby Assess Test in predicting NCLEX-RN success. Jenks (1988) identified the end of senior year as to predicting NCLEX-RN success. The Mosby Assess Test correlated strongly with the NCLEX-RN. As with several researchers mentioned previously, Glick (1986), Whitley and Chadwick (1986) and Yocom and Scherubel (1985), Jenks, Selekman, Bross and Paquet (1988) also found that clinical nursing course grades correlated with the NCLEX-RN. Pre-admission criteria did not correlate

with success on the NCLEX-RN. In this study Jenks (1988) suggested future research to establish needed interventions that would improve the performance of students identified as at risk. McKinney, Small, O'Dell and Coonrod (1988) reported that the Mosby Assess Test scores, SAT-V, GPA and NTGPA could be used as success predictors on the NCLEX-RN for this group of baccalaureate students. This study also suggested that students needing extra assistance can be identified at the end of the freshman year which supports the time frame of Quick, Krupa and Whitley (1985) in identifying at risk students.

In addition to pre-nursing GPA and prerequisite GPA Allen, Higgs and Holloway (1988) reported that preadmission demographic data did not relate to students' success. Other interesting findings in this study were that experience as a nurse's aide or LPN, time spent working and experience in upper-division college courses did not affect success in the nursing program.

Burris (1987) described a student support program using reading comprehension to identify educationally disadvantaged nursing students and training faculty to tutor the at risk students. Tutoring sessions focused on reading comprehension, nursing vocabulary and study skills. This was a pilot study and general evaluation information for the one-year trial was included.

Hughes (1988) described the nursing resource center approach to providing services for nursing students at risk and a program to prepare students for taking the NCLEX-RN. Services that were provided for at risk students were counseling, tutoring, referrals and media services. For seniors prior to taking NCLEX-RN the Mosby Assess Test was used to diagnose areas most needed for review then study plans were used for nursing review as well as test taking and relaxation techniques. This was a descriptive study and no statistics were available other than feedback type of evaluations.

In an article by Mitchell, (1988) Alverno College is used as a present day example of nontraditional education. Mitchell suggests in order to decrease the attrition rates in nursing education and to serve today's nontraditional students nursing education should develop different educational models.

Rosenfeld (1988) while reporting net retention rates of nursing education programs in her article stated that nursing students appear to be having more difficulty with nursing. Academic as well as emotional support is needed in order for students to be successful in nursing education.

Summary

From the nursing literature many variables have been used in research studies to identify students at risk, predict program success, indicate the best time to identify at risk students and how to predict success on the NCLEX-RN. One study predicted NCLEX-RN success at 83% and another at a 91% rate.

There were differing results regarding ACT scores in predicting success but in general ACT scores predicted success better for associate degree students than for baccalaureate students. GPA in clinical nursing courses and the Mosby Assess Test appeared to be good predictors of success on NCLEX-RN for baccalaureate students.

Two studies alluded to the importance of identifying at risk nursing students early in the program and providing assistance for success but offered no suggestions for interventions to be used. Two other studies did suggest possible interventions for at risk students. One was a weekly group session format and one was providing services through a nursing resource center.

No formal research studies were found in the literature using the Nelson-Denny reading exam as a predictor of baccalaureate nursing success. Other than the SAT-verbal

and ACT-verbal scores none of the research studies used reading comprehension ability or nursing vocabulary as variables in either identification of the at risk student or predicting NCLEX-RN success.

Very little information was found in the nursing literature regarding specific strategies that will effectively improve the success of at risk nursing students other than test taking strategies, relaxation techniques and NCLEX-RN review.

Most studies agreed that pre-admission criteria are useful for admission decisions and upholding admission standards but should not be used to prevent at risk students from having a chance at being admitted. There is a consensus in nursing education that at risk students should be identified early in the program and should be given assistance but the exact type of assistance and who should be able to give the specific assistance has not been determined. Most nursing faculty have not had training or formal education in planning and implementing remediation activities or training in teaching the various study skills. One article did mention training nursing faculty members to diagnose at risk students' reading and study skills problems and provide the appropriate tutoring for a pilot study. From the information given that study was successful. (Burris, 1987).

Now that there are many studies available regarding identifying the at risk student and predicting success on the NCLEX-RN, research is needed to determine the most effective and cost efficient methods of providing assistance to at risk students. In so doing attrition should drop and an increase of qualified nurses should enter the nursing profession to serve society in providing health care.

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